IN THE SPECIFICATION:

Paragraph beginning at line 24 of page 3 has been amended as follows:

In an optical device such as ~~the~~ an optical switch, ~~etc.,~~ a fiber collimator of a relatively small diameter having a graded index optical fiber is used in many cases. ~~Beam~~ A beam emitted from the fiber collimator is once converged and is then again widened and advanced. As one example, as shown by the situation of the advance of the emitted light in Table 1 and Figs. 13 and 14, the beam diameter is changed in accordance with the distance from the end face of the optical fiber.

Paragraph beginning at line 8 of page 4 has been amended as follows:

Therefore, when this fiber collimator is assembled into the optical device, a pair of optically connected fiber collimators can be held ~~in a best state in~~ with high coupling efficiency by arranging this pair of fiber collimators in a position relation for optimizing the distance between their end portions on the basis of the converging and enlarging states of light. Namely, when the same fiber collimator is used on the emitting side and the incident side, it is

preferable to set the fiber collimator so as to have a focal point in ~~an~~ a halfway spot.

Paragraph beginning at line 17 of page 4 has been amended as follows:

The arranging position of the fiber collimator within the optical device is determined in this way. However, in the case of the construction as shown in Fig. 12, for example, when the optical fiber is arranged so as to optimize the optical path length (A+2E) of the optical path before the switching, there is a high possibility ~~of the construction~~ that light is incident to another optical fiber while the light state is inappropriate as it is ~~as~~ in an excessively large state of the beam diameter~~, etc.~~ at the optical path length (3A+2E, A+2D+2E) of the optical path after the switching. In this case, insertion loss is increased.

Paragraph beginning at line 1 of page 6 has been amended as follows:

The coupling efficiency is calculated on the basis of this Marcus formula and loss is further calculated. The calculated results are shown in Table 2 and Fig. 16. Here, as one example, the beam of about 50 μm in radius is emitted and the focal point is formed at a distance of 250 μm from the

emitting end. Namely, the fiber collimator is used so as to set the beam diameter to a BW (Beam Waist) point as a minimum beam radius and having a 3.5 ~~in~~ distribution constant and a 125 μm ~~in~~ diameter (100 μm in core diameter) ~~is used~~.

Paragraph beginning at line 19 of page 13 has been amended as follows:

In ~~these constructions,~~ the foregoing construction, similar to the above-mentioned case, all the optical paths ~~constructible~~ constructed by combining the respective optical fibers, or all the optical paths except for one optical path are set to have the equal optical path length, and a ~~preferable~~ preferred propagating state of light can be secured with respect to these optical paths.

Paragraph beginning at line 12 of page 15 has been amended as follows:

Fig. 1A is a plan view of a first embodiment mode of an optical switch of the present invention. Fig. 1B is a cross-sectional view taken along line ~~X-X~~ 1B-1B of Fig. 1A. Fig. 1C is a cross-sectional view taken along line ~~Y-Y~~ 1C-1C of Fig. 1A.

Paragraph beginning at line 16 of page 15 has been amended as follows:

Fig. 2A is a typical view of a main portion of the optical switch shown in ~~Fig. 1.~~ Figs. 1A-1C. Fig. 2B is cross-sectional view of the optical switch of Fig. 2A.

Paragraph beginning at line 22 of page 16 has been amended as follows:

~~Fig. 15 is a typical view for~~ Figs. 15A-15C are views explaining the optical connection between a pair of optical fibers.

Heading at line 8 of page 17 has been amended as follows:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Paragraph beginning at line 20 of page 17 has been amended as follows:

In this embodiment mode, the optical fibers 2 to 5 are constructed by coating portions or fibers 2b to 5b and uncovered bare portions 2a to 5a stripped off in their coatings and located at the tips of the coating fibers 2b to 5b. The coating portions 2b to 5b come in close contact with each other and are arranged in parallel with each other on the substrate 1. The bare portions 2a to 5a have diameters

smaller than those of the coating portions 2a to 5a are arranged at non-equal intervals and the lengths of optical paths are adjusted as described later. Guide members 12a, 12b having guide grooves 8a for the bare portions 2a to 5a and guide grooves 8b for the coating portions 2b to 5b are formed in the substrate 1. The optical fibers 2 to 5 are positioned and fixed on the substrate 1 by inserting the optical fibers 2 to 5 into these guide grooves 8a, 8b. In this embodiment mode, the optical fibers 2 to 5 are divided into a set of optical fibers 2 and 4 and a set of optical fibers 3 and 5. One (e.g., optical fibers 2 and 4) of the sets is set to emitting side optical fibers, and the other set (e.g., optical fibers 3 and 5) is set to incident side optical fibers. The guide members 12a, 12b are not limited to the construction in which the guide members 12a, 12b are formed in the substrate 1 as in this embodiment mode. For example, the guide members 12a, 12b may be formed by glass, etc. separately from the substrate 1, and may be also arranged on the substrate 1. Further, a tape fiber may be also used as the optical fiber. When the tape fiber is used, a groove for guiding and fixing the tape fiber onto the substrate 1 is formed instead of the guide member 12b. The other constructions, operations, etc. in the case using the taper fiber are similar to those in the

case using the illustrated optical fibers 2 to 5 constructed by the coating portions 2b to 5b and the bare portions 2a to 5a.

On Page 43, the lower left box of Table 6 has been amended as follows:

A	150
B	~~150~~ 200
C	150
D	50
E	125
F	50

optical fiber 2→3 A+2D+2E+2F 600

optical fiber 4→5 C+2D+2E+2F 600

optical fiber 2→5 A+B+C+2F ~~550~~ 600

optical fiber 4→3 B+2E+2F ~~500~~ 550